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# Biotechnology Notes

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*Biotechnology Notes*, a compilation of agency activities, news events, and upcoming meetings, is prepared for members of the U.S. Department of Agriculture's (USDA) Committee on Biotechnology in Agriculture (CBA) by USDA's Office of Agricultural Biotechnology (OAB).

## INSIDE USDA

### YOUNG SAYS MORE WOMEN, MINORITIES NEEDED IN SCIENCE

Speaking at a seminar he conducted February 12 at North Carolina A&T State University, Greensboro, NC, Alvin Young, Director of the Office of Agricultural Biotechnology (OAB) said "It is important to provide training opportunities to women and minorities in science and technology, and particularly in biotechnology where future scientific advances depend largely on the availability of highly trained scientists." He also discussed the potential impact of the National Research Initiative on 1890 institutions, Federal oversight of biotechnology, and sources of funding for biotechnology research.

### ONE CHANCE IN 5 MILLION

The U.S. Patent and Trademark Office awarded its 5 millionth patent to Lonnie O. Ingram, a University of Florida microbiologist whose research was funded in part by USDA's Cooperative State Research Service (CSRS), National Research Initiative Competitive Grants Program. Ingram inserted genes from *Zymomonas* into Escherichia coli to create a new organism that can convert plant or plant by-products into ethanol. It is hoped that in the short-term the new technology will be used to drastically reduce trash going into landfills, while simultaneously producing fuel. Once the new technology has proven itself, some industry officials believe the high-octane fuel could eventually replace gasoline in automobiles.

### CSRS PUBLISHES NEPA REGULATIONS

USDA's CSRS has published proposed regulations that would ensure compliance with the National Environmental Policy Act (NEPA). According to CSRS Administrator John Patrick Jordan, "The proposed regulations not only comply with NEPA laws but also provide our State-Federal partners with a solid framework on which to base those decisions that could potentially affect the quality of the human environment."

The regulations cover a range of issues, including preparation of environmental documents, the concept of tiering to eliminate repetitive discussions, and a policy of making final documents available for public review.

The regulations were published in the February 27 Federal Register and allow for public comments until April 29. For more details call Clare Harris, CSRS Associate Administrator, at 202-447-7441.

#### **APHIS BRIEFS JAPANESE OFFICIALS**

Terry Medley, Director of Biotechnology, Biologics, and Environmental Protection (BBEP) at the Animal and Plant Health Inspection Service (APHIS), and members of his staff, met recently with senior Japanese advisors to discuss issues related to USDA's efforts at harmonizing biotech regulations worldwide. The visitors were brought up-to-date on the coordinated framework and the role of various biotech-related committees within different Federal agencies. The meeting concluded with a discussion about how BBEP performs specific case-by-case reviews of biotech field releases.

#### **THE AGE OF COMPUTERS**

*Biotechnology Notes* can now be accessed worldwide on the Computerized Information Delivery Service (CIDS), an online information service that contains about 600 current USDA reports, summaries, speeches, news releases, research results, and other information and technical data pertaining to agriculture. Through CIDS, about a half a million people each month learn about USDA's programs and activities.

In addition to the 11 USDA agencies that provide input to CIDS, the U.S. Department of State and the Commodity Futures Trading Commission also feed dozens of reports, updates, and briefings into the system.

The breadth of information contained in CIDS is easily matched by the number and diversity of groups that pull the information off, re-package it, and send it out again to various audiences. Some of the subscribers are: state departments of agriculture, three dozen national and international news and information services, Agriculture Canada, the American Farm Bureau, the Irish Dairy Board, corporations, domestic and foreign trade associations, the U.S. Senate, international wire services, embassies, and land-grant institutions. To learn more about CIDS, which is maintained by the Martin Marietta Corporation, or to become a subscriber, call Russell Forte, Office of Public Affairs, at 202-447-5505.

#### **THE PUBLIC SCIENTIST: IN SEARCH OF TRUST**

The challenge of building public trust in science, as well as in scientists, was the theme of a presentation given March 11 by Paul



Stumpf at a CSRS seminar held in the Aerospace Building in Washington, DC. Stumpf is CSRS' chief scientist for the National Research Initiative Competitive Grants Program. He said the public's mistrust and confusion often results from premature reporting of "breakthroughs" or "cures" that are often recounted later. To help restore the public's confidence, Stumpf suggested that scientists try to relate more to societal issues and become "advocates" for science. He urged scientists to provide more input to legislative bodies and decisionmakers, and to work closer with professional societies and other groups that promote science in the public's interest.

## **NEWS AROUND THE NATION (AND THE WORLD)**

### **HARMONIZING THE PATENT PROCESS**

According to the March issue of BT Catalyst, a publication of the North Carolina Biotechnology Center, the European Patent Office, the U.S. Patent and Trademark Office, and the Japanese Patent Office have agreed to develop common standards for electronic processing of patent applications and to define standards and conditions for the use of common DNA databases, as well as conditions for releasing databases to the public. For more details, call the U.S. Patent and Trademark Office at 703-557-3341.

### **CONGRESSMAN WYDEN ON PATENTING; EPA**

Congressman Ron Wyden, chairman of the House Small Business Subcommittee on Regulation, Business Opportunities, and Energy spoke to representatives of the media, industry and government agencies February 8 in Washington, DC at a breakfast sponsored by the Association of Biotechnology Companies. Wyden's subcommittee has been working on reducing the backlog of biotech patent applications at the Patent Office and said Secretary of Commerce Robert Mosbacher is committed to providing more resources to the Patent Office and offering more incentives to professionals. Wyden also summarized the results of a GAO (Government Accounting Office) study entitled "Biotechnology: Processing Delays Continue for Growing Backlog of Patent Applications."

Wyden said he wants to know more about the Environmental Protection Agency's regulatory guidance for the biotechnology industry and suggested that oversight hearings may be needed. He also said he would be pleased to hear from the biotech industry on this subject.

### **REPORT ON NATIONAL BIOTECH POLICY**

The President's Council on Competitiveness, chaired by Vice President Dan Quayle, recently released its "Report on National

Biotechnology Policy." Among its recommendations, the Council said agencies should "vigorously implement" the Technology Transfer Act and help facilitate advanced training of more scientists and engineers, especially women and minorities.

The Council also said current laws provide an adequate framework for regulating biotechnology; however, there are still "inconsistencies" in oversight at different agencies. To help remedy the situation, the Council recommended the following four principles of regulatory review:

1) Oversight should be based on risk rather than on the process, and the fact that a product was produced using biotechnology does not necessarily mean the product poses a risk to human health and the environment.

2) The regulatory review process should minimize regulatory burden while assuring protection of public health and welfare. Different agencies should use the same standards and clarify questions of jurisdiction.

3) Performance standards, which set out goals, are preferred over design standards, which specify how goals are met.

4) All regulation in environmental and health areas should use performance standards to help "create opportunities for the application of innovative new biotechnology products."

#### SMUT: A UNIVERSAL PROBLEM

Scientists at BioResearch Ireland have developed an ELISA assay (Enzyme-Linked Immunosorbent Assay) for detecting and estimating Ustilago nuda levels in barley seeds and are looking for potential licensees or companies interested in collaborating on development of an on-farm test. Whereas traditional methods for detecting levels of infection require a labor intensive embryo test, the ELISA assay is fast and inexpensive and may be used on the farm by farmers.

Barley smut is a serious problem in many countries around the world. It is caused by the fungus Ustilago nuda, which attacks the seeds of barley plants. The disease is especially prevalent among barley crops grown from farm-saved seed.

For more details about the project, write to Martin Mullins, BioResearch Ireland, EOLAS, Glasnevin, Dublin 9, Ireland. The telephone number is 353.1.370177. The FAX number is 353.1.370176.

#### HERBICIDE CONFERENCE SUMMARIZED

The February 1991 issue of Iowa State University's "Biotechnology Update" newsletter features a report on probable risks and benefits



of introducing herbicide tolerant crops in Iowa. The report is the result of a conference held at Iowa State last October. Participants agreed that herbicide tolerant varieties of crops should be evaluated by Federal regulatory agencies to ensure the safety of the food supply. They said it is advisable to develop crops that are tolerant to only the minimum amount of herbicide necessary to control weeds.

There was also consensus that herbicides used with herbicide tolerant crops should be rotated, and that it is the responsibility of Iowa State University and its extension service to continue to educate farmers about alternatives for effective, long-term weed control. The attendees said more research is needed on why and how herbicide tolerance evolves, and agreed that the amount of basic weed science research should be increased along with the funds needed to support it. They also said a distinction should be made between risks unique to herbicide tolerant crops and those applicable to any herbicide use.

To receive a copy of the report call the Office of Biotechnology at Iowa State University at 515-294-9818.

### **IN CASE YOU WEREN'T THERE**

- Alvin Young, OAB Director, spoke about science in general and biotechnology in particular at the National Young Leaders Conference last month in Washington, DC. Young first reviewed the fundamentals of biology and then explained that biotechnology is built on basic scientific principles of heredity and genetics. He described recombinant DNA technology and anti-sense technology and explained why these techniques are important to agriculture. He concluded the presentation with an overview of the different points of view related to ethical issues and socio-economic concerns.

- Simultaneous, coordinated workshops on release of organisms into the environment took place March 11-14 in Vienna, Austria and March 11-13 in Rockville, MD. The workshops were sponsored by the United Nations Environment Programme (UNEP) which invited the international, independent Microbial Strain Data Network (MSDN) to organize the meetings. Each site divided the workshop into two parts: the first focused on the need for an international data resource on release of organisms into the environment and which organisms should be included; the second part made recommendations on the design of a system.

- Alvin Young presented a slide lecture at Tuskegee University's 99th Annual Farmer's Conference on February 13 at Tuskegee, Alabama. Speaking on "Biotechnology: New Technologies, New Opportunities," Young said the tools of biotechnology will offer agricultural communities improved crops and livestock and

alternatives to current management practices, and that many of the new technologies may be farm-size neutral (small farms as well as large ones may profit from adoption).

## NEW PUBLICATIONS

● Agricultural Biotechnology, Food Safety and Nutritional Quality for the Consumer. Prepared by the National Agricultural Biotechnology Council. 1990. Edited by June Fessenden MacDonald. NABC Report 2. To order a copy write to NABC, 158 Biotechnology Bldg., Cornell University, Ithaca, NY 14853-2703.

● Agriculture Statistics for 1989. Produced by the New Zealand Department of Statistics. 1991. Item number 5007. \$34.50. Requests should be sent to GP Publications Ltd., Freepost 10050, PO Box 38-900, Petone, Wellington, New Zealand.

● The second issue of EBIS (European Biotechnology Information Service) is now off press. The 20+ page newsletter covers a wide range of biotechnology activities in Europe. EBIS is also available as a bulletin board on the Microbial Strain Data Network (MSDN) service which runs Telecom Gold and is available throughout the world. To access EBIS one needs a computer, a modem, and a password to enter the MSDN. To receive a password, write to MSDN, Biotechnology Centre, Cambridge University, 307 Huntingdon Road, Cambridge, CB3 0JX, United Kingdom.

## UPCOMING MEETINGS

April 9: Book release event at J.W. Marriott Hotel, 1331 Pennsylvania Ave., N.W., Washington, DC, from 3-4 p.m. The National Association of State Universities and Land-Grant Colleges will unveil a new basebook and leaflet series entitled Agricultural Biotechnology: Issues and Choices. For more details call Bill Baumgardt or Debbie Gabbard at Purdue University at 317-494-8369.

April 9-10: Bioengineering of New Animal Food Sources. University of Connecticut, Storrs Campus. Call Anne Nickerson at 203-486-3231.

April 10-11: Veterinary Advisory Committee Meeting of the Food and Drug Administration. Bethesda Holiday Inn, 8120 Wisconsin Ave., Bethesda, MD. Call Gary Stefan at 301-443-0830.

April 10-11: "U.S. Agriculture: Forces Reshaping the Future," sponsored by the Agribusiness Group of Kline and Co. Chicago, Ill. Call Anna Stuart at 201-227-6262.



**April 16-18:** British Society for Plant Pathology. University of Wales, Swansea. Call 0248-351151; or FAX your inquiry to 024-8-361429.

**April 16-20:** Biotechnology 2000. The First Pacific Basin Conference on Biotechnology. Bali, Indonesia. Call the Oxford Business Group Limited in Oxford, England at 0865-53688. The FAX number is 0865-53805 (International Code: 01044+).

**April 17-19:** "Doing Business with the Japanese." Seattle, Wash. Program intended for executives from advanced technology companies, including the biotechnology industry. Call 206-543-8560. The FAX number is 206-543-6872.

**April 19-20:** Plant Biotechnology and its Contribution to Plant Development and Improvement. Geneva, Switzerland. Write to Expoflore-Symposium, 8, rue du 31-Decembre. CH-1207, Geneva, Switzerland; or call 41-22-7365949.

**April 22-24:** Alltech Symposium on Biotechnology in the Feed Industry. Lexington, KY. Call Dr. Pearse Lyons at 606-885-9613.

**April 22-25:** International Conference on Environmental Biotechnology. Ostend, Belgium. Write to Rita Peys, c/o TI-K.VIV, Desguinlei 214 B-2018, Antwerpen, Belgium; or call 32-3-2160931.

**April 29-30:** ATCC Biotechnology Patent Conference. Washington, DC. Call 301-881-2600.

**April 30-May 2:** The National Food and Agricultural Exposition sponsored by the National Association of State Departments of Agriculture. Las Vegas, Nev. For details call 202-628-1566; or FAX inquiries to 202-628-9461.

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**May 13-16:** Fifth International Biotechnology Meeting. Washington, DC. Sponsored by the Association of Biotechnology Companies. For details call Richard Okiuye or Adi Niv at 202-234-3330.

**May 14-15:** "Capitalizing on CRADA's (Cooperative Research and Development Agreements): The New Currency for Technology Transfer." Conference to be held at Hyatt Regency, Crystal City, VA. Call Lissa Wilson at 202-662-9728.

**May 22-23:** Meeting of USDA's Agricultural Biotechnology Research Advisory Committee. Cabinet Room, Governor's House Holiday Inn, Rhode Island Ave. and 17th St., N.W., Washington, DC. Meeting begins 9 a.m. both days and adjourns at 5 p.m. on May 22 and at 3 p.m. on May 23. It is open to the public as well as the Classification/Confinement working group which meets May 21 and the risk assessment/priority setting working group on May 8. For more

details about the time and locations call either Alvin Young or Daniel Jones at 703-235-4419.

**May 30-June 1:** "Agricultural Biotechnology at the Crossroads: Biological, Social, and Institutional Concerns" is the title of the third annual meeting of the National Agricultural Biotechnology Council. Sacramento, CA. For details call the University of California Agricultural Issues Center at 916-752-2320.

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**June 2-4:** International Industrial Biotechnology Conference. Montreal, Canada. Call 613-954-3042.

**June 2-6:** "International Symposium on Sweet Potato Technology for the 21st Century." Tuskegee, Alabama. Co-sponsored by USDA, the National Aeronautics and Space Administration, the Agency for International Development, EPCOT Center at Walt Disney World, and Tuskegee University. For details call 205-727-8333. The FAX number is 205-727-8493.

**June 6-7:** Patents, Licensing and Biotechnology Transfer. Santa Fe, NM. Call 314-882-4105.

**June 9-15:** Achema '91: 23rd International Meeting on Chemical Engineering and Biotechnology. Frankfurt Am Main, Germany. Call 069-75-64-242.

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**July 6-10:** Two joint events in the field of biotechnology will take place this week in Sao Paulo, Brazil, including "The First Latin-American Fair of Biotechnology," and "The Second Brazilian Fair of Biotechnology." For more details, write to Certame Eventos, Rua Mexico, 11 Sala 201, 20031 Rio De Janeiro, Brazil; or FAX inquiries to 021-240-8195 in Rio or 011-883-1918 in Sao Paulo.

**July 21-26:** Gordon Conference on Applied Environmental Microbiology. Colby-Sawyer College, NH. Registration forms are available from The Gordon Research Conferences, University of Rhode Island, Kingston, RI 02881-0801.

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*Biotechnololgy Notes* is prepared by Marti Asner, public affairs specialist in USDA's Office of Agricultural Biotechnology. Suggestions for items to include in future issues are always appreciated and may be sent to USDA/OAB, Room 1001, Rosslyn Plaza East, 1621 N. Kent Street, Arlington, VA 22209; or phone 703-235-4419. The FAX number is 703-235-4429.